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EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT PAPER NUMBER

1771

DATE MAILED: 08/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/982,342	MUTHIAH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Norca L. Torres-Velazquez	1771	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40, 44, 47-48, 50-67, 69-73, 75-87 is/are pending in the application.
- 4a) Of the above claim(s) 1-24, 50-54, 58-63, 69-72 and 75-80 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-40, 44, 47-48, 55-57, 64-67, 73 and 81-87 is/are rejected.
- 7) ☒ Claim(s) 33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed on June 14, 2004 have been fully considered but they are not persuasive.

a. Applicants argue that the Ahmed et al. reference does not anticipate the claimed invention because the resinous composition of Ahmed et al. is restricted to thermoplastic resins versus the at least partially cured resins used in the coating of the claimed invention chemically react during heating or upon exposure to radiation (thermosetting resins or radiation curable resins).

It is noted that AHMED et al. teaches that the polymer materials used in making the SAPs are slightly network cross linked polymer of partially neutralized polyacrylic acid and starch derivatives thereof. (Col. 12, lines 44-46) It is the Examiner's position that this teaching will read on the partially cured resin of the present invention since applicants further claim (in claim 25) that the partially cured resin is selected from the group consisting of acrylates, super absorbent polymers... and mixtures thereof. It is further noted that the thermoplastic composition of Ahmed et al. comprises at least one SAP polymer admixed with the thermoplastic component. (Col. 11, lines 23-25)

b. With regards to Applicant's amendment of claim 33 in order to overcome the objection to as being improperly dependent upon claim 25. It is noted that claim 33 is now dependent on itself; it should be dependent on claim 32 instead.

c. With regards to the rejection of claims 25-30 and 37-39 under 35 U.S.C. 112, second paragraph, as being indefinite. Applicants have amended the independent claims

to require that the polymeric material is a substrate and conclude that the necessary spatial relationship is now present in the claims because the claims require a substrate coated with an at least partially cured resin that is stably adhered to a super absorbent polymeric powder.

It is noted that while the use of the term substrate provides structure to the former polymeric material, the claims still lack of spatial relation between the substrate, the resin coating and the super absorbent powder. Claim 25, now provides a substrate but it is not clear what is the relation of the super absorbent polymeric powder in relation to the substrate and coating. A good example on how to overcome this rejection and provide the claim with spatial relation between all the elements can be found in line (c) of claim 40.

d. Applicant's note that no action on the merits was made for claims 28, 34, 35 and 44 is noted and these are addressed in the present office action. It is noted that the status of claim 28 should be changed from (withdrawn) to (original). The Examiner also notes that Ahmed et al. also teaches the use of their composition in foam structures. (Col. 13, lines 48-61) Further with regards to amended claims 64-67, it is the Examiner's position that foam structures taught by the reference reads on the "expanded polymeric material" of independent claim 64.

#### ***Claim Objections***

2. Claim 33 is objected to because of the following informalities: it should be dependent on claim 32 instead of claim 33 to have proper dependency. For examining purposes the Examiner

assumes that this was a typographical error and that it is dependent on claim 32. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 25-34 and 36-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 25-34 and 36-39 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: no spatial relation between the polymeric material, the resin coating and the super absorbent powder.

It is noted that for examining purposes the product of claim 25 is interpreted as being part c) of claim 40, in which the super absorbent polymeric powder is adhered to the coating on the polymeric material. Further, it is noted that the “polymeric material” is interpreted as being a substrate such as a fiber, sheet, foam, film, etc. as disclosed on page 5, lines 2-3 of the specification. In an embodiment disclosed by applicants on page 19 of the specification, the “polymeric material” is a sheet of cellulosic fibers.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 25-37, 39-40, 44, 47-48, 55-57, 64-67, 73 and 81-87 are rejected under 35 U.S.C. 102(e) as being anticipated by AHMED et al. (US 6,534,572 B1).

AHMED et al. discloses a composition comprising a thermoplastic component and at least one super absorbent polymer. The composition may be formed into a film layer or applied to an article with various hot melt adhesive application techniques. The composition is useful in disposable articles. (Abstract) AHMED et al. teaches the use of SAP in absorbent core portions sandwiched between a fluid pervious top sheet and a fluid impervious backsheet. (Column 1, lines 66-67 through Column 2, lines 1-2). The reference teaches using from about 40-wt% to about 70-wt% of the thermoplastic component and about 40 wt% to about 70 wt% of super

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absorbent polymer. (Column 4, lines 22-27) The composition can be applied to an article by any known hot melt application technique, extruded as a rod, strand or fiber, as well as be formed into a film layer on a substrate. (Column 4, lines 37-43; Column 14, lines 34-45) In another embodiment, the reference also teaches the invention as a film layer disposed on a substrate comprising the inventive thermoplastic mixture. The Examiner interprets that the substrate of the reference equates to the polymeric material claimed herein. The film layer may be formed by providing a molten mixture of the inventive composition comprising at least one thermoplastic polymer and at least one super absorbent polymer and forming a substantially continuous film from the molten mixture onto a substrate. (Column 4, lines 37-50) The reference further teaches the use of particles of Saps with particle size from about 10 to about 1000 microns. (Column 13, lines 16-22) The composition is preferably made by first preparing the thermoplastic component by melting and blending all the thermoplastic ingredients and then adding the SAP to the molten thermoplastic component. The SAP containing thermoplastic composition may be pelletized, pillowed, or cast into molds or drums, etc., for subsequent remelting and application. Alternatively, all the ingredients may be fed simultaneously at the appropriate rates into an extruder. (Column 13, lines 36-45) The reference also teaches the use of vinyl acetate, methacrylate, n-butyl acrylate and mixtures thereof. (Column 4, lines 6-7) Ahmed et al. also teaches the use of their composition in foam structures. (Col. 13, lines 48-61) Further with regards to amended claims 64-67, it is the Examiner's position that foam structures taught by the reference reads on the "expanded polymeric material" of independent claim 64.

It is the Examiner's interpretation that AHMED et al. teaches a composition with a resin and a SAP powder that can be coated onto a substrate and that in one of their embodiments the

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substrate comprises the thermoplastic mixture of the coating material. With regards to the language "an at least partially cured resin", it is noted that this language also includes fully cured resins. Therefore, the thermoplastic material taught by AHMED et al. reads on the presently claimed material.

6. Claims 25-27, 37-38, 73 and 81-83 are rejected under 35 U.S.C. 102(b) as being anticipated by YOUNG et al. (WO 90/11181).

YOUNG et al. disclose a coated fiber product with adhered super absorbent particles. The reference teaches the use of a binder material that may be heat fusible or heat curable. (Abstract) The reference teaches that the super absorbent particulate material is applied to the fibers while the liquid binder material on the fibers is still at least partially wet. As the liquid binder material dries, the SAP particulate material is adhered to the fibers. (Page 8, lines 20-24) The fibers disclosed by the reference include synthetic fibers and also include cellulosic fibers. (Page 11, lines 2-7) The reference teaches thermosetting polymers that may be of a type, which is partially or fully cross-linkable into a thermosetting type polymer. (Page 13, lines 18-21) Among the thermoset binders disclosed by the reference are epoxy, polyester and urethanes. (Page 14, lines 9-19) The reference further teaches that the super absorbent particulate materials are granular or powdered materials. (Page 15, lines 35-36) The reference further teaches using a binder concentration by dry weight of the combined binder and fibers of from 30 percent to 50 percent for applications such as absorbent pads. (Page 20, lines 16-20)

The Examiner equates the fibers of YOUNG et al. to the presently claimed substrate of a polymeric material, the heat curable binder material to the at least partially cured resin and the



reference discloses the application of SAP material to the binder while it is still at least partially wet.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over AHMED et al. as applied to claim 25 above, and further in view of YOUNG et al. (WO 90/11181).

AHMED et al. fails to teach the use of urethane resin.

YOUNG et al. disclose a coated fiber product with adhered super absorbent particles. The reference teaches the use of a binder material that may be heat fusible or heat curable. (Abstract) The reference teaches thermosetting polymers that may be of a type, which is partially or fully cross-linkable into a thermosetting type polymer. (Page 13, lines 18-21) Among the thermoset binders disclosed by the reference are epoxy, polyester and urethanes. (Page 14, lines 9-19)

AHMED discloses the claimed invention except that it uses acrylic resins instead of urethane resins; YOUNG et al. shows that urethane is an equivalent structure known in the art of for binding super absorbent particles to a substrate. Therefore, because these two resins were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute acrylic resin for urethane resin.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Norca L. Torres-Velazquez  
Examiner  
Art Unit 1771

August 25, 2004